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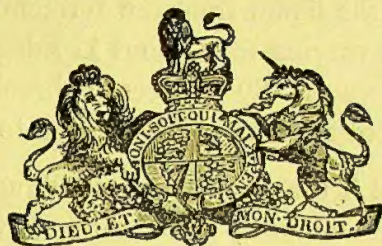
AVERAGES

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1873

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RECORDED



A.D. 1873, 17th JUNE. N° 2129.

Brewing and Treating Fermented Liquors.

(This Invention received Provisional Protection only.)

PROVISIONAL SPECIFICATION left by Edward Beanes at the Office of the Commissioners of Patents, with his Petition, on the 17th June 1873.

I, EDWARD BEANES, of Dulwich, in the County of Surrey, Gentleman,
do hereby declare the nature of the said Invention for "IMPROVEMENTS
IN BREWING AND TREATING FERMENTED LIQUORS," to be as follows:—

My Invention relates to an improved process of treating fermented liquors, by means of which fermentation may be retarded, arrested, or finally stopped at any required stage.

10 I have ascertained that by raising the temperature of a liquor after fermentation has gone on for some time to a temperature below that at which any material part of its alcohol would be expelled, if the liquor be heated to about or in excess of 115 degrees of Fahrenheit fermentation may be retarded or entirely arrested if required without causing injury
15 to liquors, such as malt liquors to which the process may be applied.

When heating malt liquors I proceed as follows:—When the fermenting wort has arrived at the desired point of attenuation (meaning thereby conversion of a portion of the saccharine constituents

Beanes' Improvements in Brewing and Treating Fermented Liquors.

into alcohol) I draw off the liquor from the fermenting square, and then heat it to a temperature varying from about 110 degrees or 115 degrees Fahrenheit to 170 degrees or 180 degrees Fahrenheit, for periods of time greater or less according to the effect desired to be produced.

In practice I find that if the fermented malt liquor be kept at about 5 120 degrees for about ten minutes, fermentation is very much retarded. If kept at 120 degrees for fifteen minutes, fermentation is arrested for the time being, and will only commence again after several days, and then proceed but slowly. If kept at the above-named temperature for a still longer time, say from twenty to thirty minutes fermentation will be 10 entirely stopped.

When wort in an active state of fermentation is heated to a temperature of only 115 degrees Fahrenheit it will be found that the rate of fermentation will be diminished, but not sufficiently so for most purposes. 15

Again, if heated considerably above 120 degrees, say, from 150 degrees to 170 degrees for a short time, fermentation will be still more effectually retarded, arrested for the time being, or finally stopped, but I find that a temperature of 120 degrees as stated to be sufficient for all practical purposes. There is an objection to the raising the liquor to high 20 temperature for ale, on account of its acquiring colour by so doing, but I do not limit myself to 120 degrees, nor to any fixed time of heating. I limit myself however to temperatures below that at which any material part of the alcohol would be expelled.

Fermentation may be arrested or stopped at any desired point by 25 heating as already stated, and after the liquor has become clear a slow fermentation may be set up by adding a portion of liquor that has not finished fermenting, but which has not been heated, the fermentation will then again proceed, and at a rate proportionate to the amount of yeast contained in the fermenting liquor added to it. 30

In all cases the worts should be quickly cooled after heating to avoid the formation of acidity, as is well understood by brewers.

LONDON:

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Printers to the Queen's most Excellent Majesty. 1873.